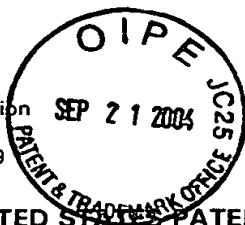


AGILENT TECHNOLOGIES, INC.
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Intellectual Property Administration
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IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION

ATTORNEY DOCKET NO. 10010602-1

RECEIVED

SEP 23 2004

Technology Center 2100

Inventor(s): Mike BIMM et al.

Serial No.: 09/347,112

Examiner: A. Mizra

Filing Date: July 2, 1999

Group Art Unit: 2141

Title: SYSTEM AND METHOD FOR A UNIVERSAL SERVICE ACTIVATION

ASSISTANT COMMISSIONER FOR PATENTS

PO Box 1450

Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith in ~~triplicate~~ is the Appeal Brief in this application with respect to the Notice of Appeal filed on June 21, 2004.

The fee for filing this Appeal Brief is (37 CFR 41.20 (b)(2)) \$330.00

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

() (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d) for the total number of months checked below:

() one month	\$110.00
() two months	\$420.00
() three months	\$950.00
() four months	\$1480.00

() The extension fee has already been filled in this application.

() (b) Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account 50-1078 the sum of \$330.00. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account 50-1078 pursuant to 37 CFR 1.25.

(X) A duplicate copy of this transmittal letter is enclosed.

() I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, VA 222313-1450.
Date of Deposit: _____ or _____

I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office on the date shown below.

() Date of Facsimile: _____

Typed Name: _____

Signature: _____

Respectfully submitted,

Mike BIMM et al.

By

Paul I. Kravetz

Attorney/Agent for Applicant(s)

Reg. No. 35,230

Date: 9/21/04

Telephone No.: (202) 434-1500



Docket No.: 10010602-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RECEIVED

SEP 23 2004

Technology Center 2100

In re the Application of:

Mike BIMM et al.

Serial No. 09/347,112

Group Art Unit: 2141

Confirmation No. 3384

Filed: July 2, 1999

Examiner: A. Mirza

For: SYSTEM AND METHOD FOR A UNIVERSAL SERVICE ACTIVATION

APPEAL BRIEF UNDER 37 C.F.R §41.37

Mail Stop Appeal Brief-Patents
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to the Appellant's earlier filed Notice of Appeal on June 21, 2004, Appellant hereby appeals to the Board of Patent Appeals and Interferences from the final rejection mailed February 19, 2004.

Appellant submits this Appeal Brief as required by 37 C.F.R. §41.37 along with the filing fee of \$330.00 set forth in 37 C.F.R. §41.20(b)(2) and a Petition for 1-month extension of time of \$110.00 set forth in 37 C.F.R. 1.17(a)(1).

09/22/2004 HVUONG1 00000034 501078 09347112

02 FC:1402 330.00 DA

I. Real Party in Interest

Pursuant to 37 C.F.R. §41.37(c)(1)(i), due to an assignment executed on August 23, 1999 by the inventors Mike Steve Bimm, Douglas Patrick Clark, Steven John Kleinbach, Daniel Charles Tory, Randall David Custeau, Robert Joseph Russell, and Yueqiang Cai, and recorded in the United States Patent and Trademark Office at Reel 010232, Frame 0590, a subsequent assignment executed on March 2, 2000 to correct the spelling of the fourth Assignor's name in the United States Patent and Trademark Office at Reel 010682, Frame 0505, and a subsequent assignment executed on August 1, 2000 to again correct the spelling of the fourth Assignor's name in the United States Patent and Trademark Office at Reel 011034, Frame 0491, the real party in interest is as follows:

Objective Systems Integrators, Inc.

100 Blue Ravine Road

Folsom, California 95630

Objective Systems Integrators, Inc., is a wholly owned subsidiary of Agilent Technologies, Inc.

II. Related Appeals and Interferences

Pursuant to 37 C.F.R. §41.37(c)(1)(ii), Applicant is not aware of any pending appeals or interferences that directly affects or will be directly affected by any decision of the Board of Patent Appeals and Interferences in this appeal.

III. Status of Claims

Pursuant to 37 C.F.R. §41.37(c)(1)(iii), claims 1 through 75 are pending in this application at the filing of this Appeal Brief.

IV. Status of Amendments

Pursuant to 37 C.F.R. §41.37(c)(1)(iv), all amendments filed have been entered and no amendments have been filed since the Advisory Action mailed on May 13, 2004.

Pursuant to 37 C.F.R. §41.37(c)(1)(viii), a copy of the claims involved in the appeal is included in their present condition in Appendix A.

V. Summary of the Invention

Pursuant to 37 C.F.R. §41.37(c)(1)(v), independent claim 1 of the present invention is directed to a computer-implemented method for activating a service in a network, the method comprising: (a) receiving a service order having one or more service components with each component being in a generic service request format; (b) routing each of the one or more service components to an appropriate domain manager; (c) translating the service component in each appropriate domain manager into corresponding device specific parameters; and (d) activating network elements responsive to the device specific parameters in order to activate the network service, wherein the generic service request format is generic to a plurality of services having a plurality of vendors or version numbers. See page 11, line 10 through page 13, line 14, and page 24, lines 1-24 of the Specification; FIG. 2.

Independent claim 24 of the present invention is directed to a service activation system for activating a service on a target network, comprising: (a) an order processing system for receiving a service order having one or more generic service components; (b) at least one domain manager communicatively connected to the order processing system for receiving the service order, wherein the order processing system is adapted to route the one or more generic service components to an appropriate domain manager of the at least one domain manager and the domain manager translates said generic service component into corresponding device specific parameters; and (c) at least one element management system communicatively connected to at least one domain manager for receiving the device specific parameters in order to activate the service on the target network, wherein the generic service components are generic

to a plurality of services having a plurality of vendors or version numbers. See page 11, line 10 through page 13, line 14, and page 24, lines 1-24 of the Specification; FIG. 2.

Independent claim 29 of the present invention is directed to a service activation system for activating a service on a target network management system or other information management system with universal or generic informational changes entered in one or more service provisioning systems, the system comprising: (a) an activation system further comprising: an order processing system communicatively interconnected between said service provisioning systems and at least one domain manager communicatively connected to the order processing system for receiving a service order comprising at least one generic service component, wherein the at least one domain manager translates said at least one generic service component into corresponding device specific parameters, and the order processing system is adapted to route the at least one generic service component to an appropriate domain manager of the at least one domain manager, one or more peer managers communicatively connected to the at least one domain manager to route the at least one generic service component to an appropriate domain manager of the at least one domain manager, wherein the at least one generic service component is received from the order processing system, wherein each of said at least one domain manager includes at least one element management system communicatively connected to the at least one domain manager for receiving the device specific parameters in order to activate the service on the target network; and (b) at least one gateway as an interface to the service provisioning systems, communicatively connected to said service provisioning system for receiving a service activation request, wherein said gateway includes a processing engine for sending and receiving messages, and identifying service order and component data for population into order database tables, wherein the at least one generic

service component is generic to a plurality of services having a plurality of vendors or version numbers. See Application, Specification, page 11, line 10 through page 13, line 14, and page 24, lines 1-24 of the Specification; FIG. 2.

Independent claim 44 of the present invention is directed to a service activation system for activating a service on a target network management system or other information management system with universal informational changes entered in one or more service provisioning systems, the system comprising: means for describing a service by one or more universal service components using universal service component relationships stored in a database; means for translating a service by employing universal service translation including parameter mapping, service decomposition, and command composition, wherein said means for translating comprises means for translating a vendor neutral one of said one or more universal service components into vendor specific form and means for translating a device neutral one of said one or more universal service components into device specific form; and means for activating a service by applying service modeling using object networks including atomic, multi-step, and logical objects, wherein the one or more universal service components are generic to a plurality of services having a plurality of vendors or version numbers. See page 11, line 10 through page 13, line 14, page 24, lines 1-24, and page 27, lines 6-24 of the Specification; FIGS. 2 and 9.

Independent claim 48 of the present invention is directed to a universal service activation system comprising: means for populating into a service provisioning system one or more universal service components, wherein said one or more universal service components each provide a vendor neutral and device neutral definition of a service; means for grouping said universal service component instances together to compose a service order; means for spawning of the

desired service order design to an activation system through at least one messaging interface; means for processing of a service order by the activation system; means for routing said universal service components to an appropriate domain manager; means for translating said universal service components into vendor specific format; means for translating said universal service components into device specific format; means for decomposing said universal service components into element activation requests using object networks; means for routing vendor specific parameters to an appropriate element management system; means for routing location specific parameters to an appropriate element management system; means for initiating vendor specific events, delivering activation commands or data to network elements through an appropriate element management system to enable the desired service; means for initiating device specific events, delivering activation commands or data to network elements through an appropriate element management system to enable the desired service; and means for sending status responses through the activation system and an appropriate messaging interface to the appropriate one or more service provisioning systems, wherein the one or more universal service components are generic to a plurality of services having a plurality of vendors or version numbers. See page 11, line 10 through page 13, line 14, page 24, lines 1-24, and page 27, lines 6-24 of the Specification; FIGS. 2 and 9.

Independent claim 49 of the present invention is directed to a computer-implemented method for universal service activation comprising: describing a service in a universal service component; including one or more of said universal service components in a service order; processing said service order by an activation system; routing said one or more of said universal service components included in said service order to an appropriate domain manager, said appropriate domain manager translating vendor neutral universal service components into vendor

specific form and translating device neutral universal service components into device specific form; and activating said service described by said one or more universal service components in said service order, wherein the one or more universal service components are generic to a plurality of services having a plurality of vendors or version numbers. See page 11, line 10 through page 13, line 14, page 24, lines 1-24, and page 27, lines 6-24 of the Specification; FIGS. 2 and 9.

Independent claim 53 of the present invention is directed to a computer-implemented method for universal service activation comprising: populating into one or more service provisioning system one or more generic service components; grouping said generic service components together to compose a service order; spawning of the desired service order design to an activation system through a messaging interface; processing of a service order by the activation system; routing said generic service components to an appropriate domain manager; translating vendor neutral generic service components into vendor specific terminology; translating device neutral generic service components into device specific terminology; decomposing said generic service components into element activation requests using object networks; routing vendor specific parameters to an appropriate element management system; routing location specific parameters to an appropriate element management system; initiating vendor specific events; delivering activation commands or data to network elements through an element management system to enable the desired service; initiating device specific events; delivering activation commands or data to network elements through an element management system to enable the desired service; and sending status responses through the activation system and the appropriate messaging interface to the appropriate service provisioning system, wherein the generic service components are generic to a plurality of services having a plurality of vendors or version numbers. See page 11, line 10 through page 13, line 14, page 24, lines 1-24, page 27,

lines 6-24, and page 44, lines 7-24 of the Specification; FIGS. 2 and 9.

Independent claim 54 of the present invention is directed to a service activation system for activating a service on a target network, comprising: (a) an order processing system for receiving a service order having one or more generic service components defining a service in device neutral parameters; (b) at least one domain manager communicatively connected to the order processing system for receiving the service order, wherein the order processing system is adapted to route the one or more generic service components to an appropriate domain manager of the at least one domain manager and the domain manager translates said generic service component into corresponding device specific parameters; (c) at least one element management system communicatively connected to at least one domain manager for receiving the device specific parameters in order to activate the service on the target network; and (d) at least one connection into an order database for receiving a service activation request one or more service provisioning systems, wherein the generic service components are generic to a plurality of services having a plurality of vendors or version numbers. See page 11, line 10 through page 13, line 14, page 24, lines 1-24, page 27, lines 6-24, and page 44, lines 7-24 of the Specification; FIGS. 2 and 9.

Independent claim 55 of the present invention is directed to a service activation system for activating a service on a target network, comprising: (a) an order processing system for receiving a service order having one or more generic service components defining a service in device neutral parameters; (b) at least one domain manager communicatively connected to the order processing system for receiving the service order, wherein the order processing system is adapted to route the one or more generic service components to an appropriate domain manager of the at least one domain manager and the domain manager translates said generic

service component into corresponding device specific parameters; and (c) at least one network management system communicatively connected to at least one domain manager for receiving the device specific parameters in order to activate the service on the target network, wherein the generic service components are generic to a plurality of services having a plurality of vendors or version numbers. See page 11, line 10 through page 13, line 14, page 24, lines 1-24, page 27, lines 6-24, and page 44, lines 7-24 of the Specification; FIGS. 2 and 9.

Independent claim 61 of the present invention is directed to a service activation system for activating a service on a target network management system or other information management system with universal or generic informational changes entered in one or more service provisioning systems, the system comprising: (a) an activation system further comprising: an order processing system communicatively interconnected between said service provisioning systems and at least one domain manager communicatively connected to the order processing system for receiving a service order comprising at least one generic service component, wherein the at least one domain manager translates said at least one generic service component into corresponding device specific parameters, and the order processing system is adapted to route the at least one generic service component to an appropriate domain manager of the at least one domain manager, one or more peer managers communicatively connected to the at least one domain manager to route the at least one generic service component to an appropriate domain manager of the at least one domain manager, wherein the at least one generic service component is received from the order processing system, wherein each of said at least one domain manager includes at least one network management system communicatively connected to the at least one domain manager for receiving the device specific parameters in order to activate the service on the target network; and (b) at least one gateway

as an interface to the service provisioning systems, communicatively connected to said service provisioning system for receiving a service activation request, wherein said gateway includes a processing engine for (1) sending and receiving messages, and (2) identifying service order and component data for population into order database tables, wherein the at least one generic service component is generic to a plurality of services having a plurality of vendors or version numbers. See page 11, line 10 through page 13, line 14, page 24, lines 1-24, page 27, lines 6-24, and page 44, lines 7-24 of the Specification; FIGS. 2 and 9.

VI. Grounds of Rejection to be Reviewed on Appeal:

Claims 1-75 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Elliott et al. (U.S. Patent No. 6,335,927) (hereinafter, "Elliott") and Dungan et al. (U.S. Patent No. 6,363,411) (hereinafter, "Dungan").

1VII. Argument

Claims 1-75 are rejected under 35 U.S.C. §103(a) as unpatentable over Elliott et al. (U.S. Patent No. 6,335,927) (hereinafter, "Elliott") and Dungan et al. (U.S. Patent No. 6,363,411) (hereinafter, "Dungan").

It is submitted that the reference teachings, as proposed in the final Office Action dated February 19, 2004, do not disclose the invention as required by the claims. The primary reference relied upon by the Examiner, Elliott, relates to a system and method of routing multimedia information through a hybrid network that includes a transfer of information across the Internet using telephone routing information and internet protocol address information. In particular, Elliott describes a telephone order entry procedure that captures complete user profile information for a user. The captured profile information is used by the system throughout the telephony experience for performing telephony control functions, i.e., routing, billing, monitoring, reporting, etc. Elliott, Summary of Invention, page 1, lines 24-40.

The Elliott system and method of routing multimedia information includes an “ISP service management layer” that “provides a manager(s) that interacts with the agents in the NLMs (network layer managements)” Elliott, column. 45, lines 15-26. In particular, the ISP receives a transaction, which originates from a customer service request, and provides service by first identifying the customer from the transaction and then forwarding the transaction to a generalized service-engine. Elliott, column 45, lines 15-26. The received transaction from the customer service request has non-generic parameters, such as customer or component identification. Thus, the “ISP service management layer” of Elliott relates only to a system for customers of an Internet service provider “to monitor and control their services” (see Elliott at col. 45, lines 18-20).

The secondary reference relied upon by the Examiner, Dungan, relates to a “centralized administration system” that stores “reusable business data objects” (see the Abstract of Dungan). In particular, the Dungan system includes an interface for receiving service components from a service creation platform enabling users to create services capable of being executed at a service node. Each service has associated service profile information defining service node resources for storing, maintaining, and executing the service.

For example, as described at column 19, lines 13-22 of Dungan, the Service Administration (SA) 500 provides a unique name to every version of every service/data entity prior to storing the service/data entity in the database of record (DBOR) 230, so that multiple versions of the same service/data entity may be maintained. When the SA distributed the data/services to data management, a single logical name is provided with each entity, along with a unique version name, so that processes such as SLPs may call on a service/data entity with a common logical name without having to know which version is needed. Thus, Dungan

describes downloading a service profile, such as that of Table 2 in Dungan, that specifies the system requirements for a service and performs a name translation to identify the service being requested. Dungan, column 19, lines 13-22.

1. Independent claims 1, 24, 54, and 55 and dependent claims 2-23, 25-28 should be grouped together.

Independent claim 1 of the present application recites, “[a] computer-implemented method for activating a service in a network, the method comprising: (a) receiving a service order having one or more service components with each component being in a generic service request format; ... wherein the generic service request format is generic to a plurality of services having a plurality of vendors or version numbers.” Independent claims 24, 54, and 55 each recite similar features.

The prior art references relied upon by the Examiner do not teach or suggest receiving a service order having one or more service components with each component being in a generic format, as is disclosed in claim 1 of the present application. Instead, Elliott discloses an “ISP service management layer” that “provides a manager(s) that interacts with the agents in the NLMs.(network layer managements)” Elliott, column 45, lines 15-26. In particular, the ISP receives the transaction, which originates from a customer service request, and provides service by first identifying the customer and then forwarding the transaction to a generalized service-engine. Elliott, column 45, lines 15-26. Thus, unlike in claim 1 of the present application, Elliott fails to teach or suggest receiving a service order having one or more service components “wherein the generic service request format is generic to a plurality of services having a plurality of vendors or version numbers.” Instead, as asserted by the Examiner, the received transaction from the customer service request has non-generic parameters, such as customer or component identification.

Further, it is respectfully submitted that the “ISP service management layer” of Elliott does not teach or suggest at least “receiving a service order having one or more service components with each component being in a generic format,” in which the generic service request format “is generic to a plurality of services having a plurality of vendors or version numbers,” as is disclosed in claim 1 of the present application. Instead, the “ISP service management layer” of Elliott relates only to a system for customers of an Internet service provider “to monitor and control their services. Elliott at col. 45, lines 18-20. In further contrast, Elliott only discusses services of a single ISP, which inherently has only one vendor and version number, not “a plurality of vendors or version numbers.”

Further, Applicant traverses the rejection outlined in item 43 of the final Office Action dated February 19, 2004 that “[o]ne ordinary skill in the art can be established that the service requests from service components are in some kind of form contains certain kinds of parameters like customer or components identifications.” Elliott’s does not teach or suggest “receiving a service order having one or more service components with each component being in a *generic service request format*,” as is recited in claim 1 of the present application. Instead, Elliott discloses forwarding a transaction to a generalized service engine (Elliott, column 23, lines 14-18). However, even assuming that service requests from the service components in Elliott do contain certain kinds of parameters, as asserted by the Examiner, this does not deem obvious “receiving a service order having one or more service components with each component being in a generic service request format.” Unlike claim 1 of the present application, the format of the service requests from the service components in Elliott include a format that is particular to a vendor and/or software version.

In light of the foregoing, no such showing that has been made in the final Office Action

dated February 19, 2004 that “receiving a service order having one or more service components with each component being in a *generic service request format*” is obvious in light of Elliott and Dungan. Applicant submits that the reason why no such showing was made is because Elliott and Dungan individually or combined, fail to teach, suggest, or otherwise provide the motivation needed to make such a modification. “ To support the conclusion that the claimed combination is directed to obvious subject matter, the references must either expressly or impliedly suggest the claimed combination. It is to be noted that simplicity and hindsight are not proper criteria for resolving the issue of obviousness.” Ex Parte Clapp, 227 USPQ 972, 973 (B.P.A.I. 1985).

Moreover, the secondary reference relied upon by the Examiner, Dungan, only discusses a “centralized administration system” that “stores reusable business data objects,” but also does not teach or suggest the features of the pending independent claims.

Further, the Examiner concedes in item 2 on page 2 of the final Office Action dated February 19, 2004 that Elliott fails to teach or suggest “translating the service component in each appropriate domain manager into corresponding device specific parameters.” However, the Examiner asserts that Dungan teaches this element and contends that it would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated the teaching of Dungan into the system of Elliott. The Examiner’s incorrectly relies on column 22, lines 47-61 of Dungan to teach or suggest the above feature. Applicant traverses this rejection because Dungan fails to teach or suggest “translating the service component in each appropriate domain manager into corresponding device specific parameters,” as recited by claim 1 of the present application.

Further, because the Examiner relies on Elliott as teaching receiving generic service components in that Elliott teaches receipt of a call (or transaction) and because Dungan fails to

teach or suggest translating any service components that are received via such a call (or transaction), the elements in Elliott and Dungan do not correlate. Dungan does not teach or suggest “translating the service component in each appropriate domain manager into corresponding device specific parameters.” Instead, Dungan merely describes downloading a service profile, such as that of Table 2 in Dungan, which specifies the system requirements for a service. Thus, Dungan discloses performing a name translation to identify the service being requested, i.e., translating the services in terms of logical and physical address. Dungan, column 18, lines 13-22. Therefore, while a name translation is performed to identify the service that is requested (i.e., the correct version of the service), Dungan fails to teach or suggest “translating the service component in each appropriate domain manager into corresponding device specific parameters.”

Therefore, it is respectfully submitted that independent claim 1 is patentably distinguished over the combination of Elliott and Dungan for at least the foregoing reasons.

Similarly, independent claim 24 recites nearly identical features as discussed above with regard to independent claim 1. Independent claim 24 recites, in part, “... (a) an order processing system for receiving a service order having one or more generic service components ... wherein the generic service components are generic to a plurality of services having a plurality of vendors or version numbers.” Independent claim 54 recites, in part, “... (a) an order processing system for receiving a service order having one or more generic service components defining a service in device neutral parameters ... wherein the generic service components are generic to a plurality of services having a plurality of vendors or version numbers.” Independent claim 55 recites, in part, “... (a) an order processing system for receiving a service order having one or more generic service components defining a service in device neutral parameters ... wherein the generic

service components are generic to a plurality of services having a plurality of vendors or version numbers.” Therefore, it is respectfully submitted that independent claims 24, 54, and 55 patentably distinguish over the combination of Elliott and Dungan for at least the foregoing reasons.

Moreover, dependent claims 2-23, 25-28, and 56-60 depend from independent claims 1, 24, and 54-55. Therefore, for at least the reasons that independent claims 1, 24, 54-55 patentably distinguish over the combination of Elliott and Dungan, it is respectfully submitted that dependent claims 2-23, 25-28, and 56-60 also patentably distinguish over the cited references.

2. Independent claims 29 and 61 and dependent claims 30-43 and 62-75 should be grouped together.

Independent claim 29 of the present application recites, “[a] service activation system for activating a service on a target network management system or other information management system with universal or generic informational changes entered in one or more service provisioning systems the system comprising: ... at least one domain manager communicatively connected to the order processing system for receiving a service order comprising at least one generic service component, wherein the at least one domain manager translates said at least one generic service component into corresponding device specific parameters ... wherein the at least one generic service component is generic to a plurality of services having a plurality of vendors or version numbers.” Independent claim 61 recites similar features.

The prior art references relied upon by the Examiner do not teach or suggest “receiving a service order comprising at least one generic service component,” as is disclosed in claim 29 of the present application. Instead, Elliott discloses an “ISP service management layer” that “provides a manager(s) that interacts with the agents in the NLMs.(network layer managements)” Elliott, column. 45, lines 15-26. In particular, the ISP receives the transaction, which originates

from a customer service request, and provides service by first identifying the customer and then forwarding the transaction to a generalized service-engine. Elliott, column 45, lines 15-26. Thus, unlike in claim 29 of the present application, Elliott fails to teach or suggest receiving a service order comprising at least one generic service component “wherein the at least one generic service component is generic to a plurality of services having a plurality of vendors or version numbers.” Instead, as asserted by the Examiner, the received transaction from the customer service request has non-generic parameters, such as customer or component identification.

Further, it is respectfully submitted that the “ISP service management layer” of Elliott does not teach or suggest at least “receiving a service order comprising at least one generic service component,” as disclosed in claim 29 of the present application. Instead, the “ISP service management layer” of Elliott discloses a system for customers of an Internet service provider “to monitor and control their services.” Elliott at col. 45, lines 18-20. In further contrast, Elliott discusses services of a single ISP, which inherently has only one vendor and version number, and does not teach or suggest having “the at least one generic service component is generic to a plurality of services having a *plurality of vendors or version numbers*.”

Further, Applicant traverses the rejection outlined in item 43 of the final Office Action dated February 19, 2004 that “[o]ne ordinary skill in the art can be established that the service requests from service components are in some kind of form contains certain kinds of parameters like customer or components identifications.” Elliott’s discussion of forwarding a transaction to a generalized service engine (Elliott, column 23, lines 14-18) does not teach or suggest “receiving a service order comprising at least one *generic service component*, wherein the at least one domain manager translates said at least one *generic service component* into corresponding

device specific parameters,” as is recited in claim 29 of the present application. However, even assuming that service requests from the service components in Elliott do contain certain kinds of parameters, as asserted by the Examiner, this does not deem obvious “receiving a service order comprising at least one generic service component, wherein the at least one domain manager translates said at least one generic service component into corresponding device specific parameters.” Unlike claim 29 of the present application, the format of the service requests from the service components in Elliott include a format that is particular to a vendor and/or software version.

In light of the foregoing, no such showing that has been made in the final Office Action dated February 19, 2004 that “receiving a service order comprising at least one generic service component, wherein the at least one domain manager translates said at least one generic service component into corresponding device specific parameters” is obvious in light of Elliott and Dungan. Elliott merely discloses having a “generalized search engine” and does not teach or suggest a service order having at least one generic service component. Therefore, there is no showing by the Examiner as to how the service component format in Elliott that is particular to a vendor and/or software version renders obvious “a service order comprising at least one generic service component.”

Applicant submits that the reason why no such showing was made is because Elliott and Dungan individually or combined, fail to teach, suggest, or otherwise provide the motivation needed to make such a modification. “ To support the conclusion that the claimed combination is directed to obvious subject matter, the references must either expressly or impliedly suggest the claimed combination. It is to be noted that simplicity and hindsight are not proper criteria for resolving the issue of obviousness.” Ex Parte Clapp, 227 USPQ 972, 973 (B.P.A.I. 1985).

Further, Applicant traverses the Examiner's rejection in item 28, page 9 of the final Office Action dated February 19, 2004 that the combination of Elliott and Dungan teaches or suggests "receiving a service order comprising at least one generic service component." The recited elements of Elliott and Dungan do not correlate in that Elliott teaches receipt of a call (or transaction) and Dungan fails to teach or suggest translating any service components that are received vial such a call (or transaction). As such, Dungan does not teach translating a generic service component into corresponding device specific parameters. Rather, Dungan discloses downloading a service profile, such as that of Table 2 in Dungan, which specifies the system requirements for a service. Thus, Dungan discloses performing a name translation to identify the service being requested, i.e., translating the services in terms of logical and physical address. Dungan, column 18, lines 13-22. While a name translation is performed to identify the service that is requested (i.e., the correct version of the service), Dungan fails to teach or suggest that "the at least one domain manager translates said at least one generic service component into corresponding device specific parameters."

Moreover, the secondary reference relied upon by the Examiner, Dungan, only discusses a "centralized administration system" that "stores reusable business data objects," and does not teach or suggest the features of the pending independent claims.

Further, the combination of Elliott and Dungan fails to teach or suggest "one or more peer managers communicatively connected to the at least one domain manager to route the at least one generic service component to an appropriate domain manager of the at least one domain manager," as is recited in claim 29 of the present application. Applicant traverses the Examiner's reliance on column 17, lines 62-63, and column 19, lines 1-8 of Elliott as teaching or suggesting the recited one or more peer managers. While Elliott describes that a "domain name

system 1906 maps names to IP addresses in the Internet 1910," Elliott does not teach or suggest a peer manager for routing at least one generic service component to an appropriate domain manager. Instead, Elliott discloses having the domain name system, which maps names to IP addresses, receive a service component with particular parameters and transfer these service components according to device specific parameters.

Further, the Examiner's reliance on Elliott as disclosing the recited domain manager and peer manager is inconsistent with the Examiner's concessions in the Office Action. For example, in item 2 on page 2 of the final Office Action dated February 19, 2004, the Examiner concedes that Elliott fails to teach or suggest "the at least one domain manager translates said at least one generic service component into corresponding device specific parameters," which is the claimed functionality of the domain manager of claim 29. However, the Examiner maintains that Elliott teaches the recited domain manager and further asserts that Elliott teaches a peer manager for routing a generic service component to the appropriate domain manager, citing column 44, lines 31-36 of Elliott as support. Thus, Applicant fails to understand how this can be taught by Elliott, when the Examiner concedes "the at least one domain manager translates said at least one generic service component into corresponding device specific parameters" is not taught by Elliott. Therefore, because Elliott fails to teach or suggest "the at least one domain manager translates said at least one generic service component into corresponding device specific parameters," Elliott necessarily fails to teach or suggest the recited domain manager, and thus Elliott further fails to teach or suggest one or more peer managers for routing a generic service component to an appropriate domain manager.

Therefore, it is respectfully submitted that independent claim 29 is patentably distinguished over the combination of Elliott and Dungan for at least the foregoing reasons.

Similarly, independent claim 61 recites nearly identical features as discussed above with regard to independent claim 29. Independent claim 61 recites, in part, “ ... at least one domain manager communicatively connected to the order processing system for receiving a service order comprising at least one generic service component, wherein the at least one domain manager translates said at least one generic service component into corresponding device specific parameters, ... wherein the at least one generic service component is generic to a plurality of services having a plurality of vendors or version numbers.” Therefore, it is respectfully submitted that independent claim 61 patentably distinguishes over the combination of Elliott and Dungan for at least the foregoing reasons.

Moreover, dependent claims 30-43 and 62-75 depend from independent claims 29 and 61, respectively. Therefore, for at least the reasons that independent claims 29 and 61 patentably distinguish over the combination of Elliott and Dungan, it is respectfully submitted that dependent claims 30-43 and 62-75 also patentably distinguish over the cited references.

3. Independent claim 44 and dependent claims 45-47 should be grouped together.

Independent claim 44 of the present application recites, “ ... means for translating a service by employing universal service translation ... wherein said means for translating comprises means for translating a vendor neutral one of said one or more universal service components into vendor specific form and means for translating a device neutral one of said one or more universal service components into device specific form; ... wherein the one or more universal service components are generic to a plurality of services having a plurality of vendors or version numbers.”

The prior art references relied upon by the Examiner do not teach or suggest “translating a service by employing universal service translation ... wherein said means for translating

comprises means for translating a vendor neutral one of said one or more universal service components into vendor specific form and means for translating a device neutral one of said one or more universal service components into device specific form,” as is disclosed in claim 44 of the present application. Instead, Elliott discloses an “ISP service management layer” that “provides a manager(s) that interacts with the agents in the NLMs.(network layer managements)” Elliott, column. 45, lines 15-26. In particular, the ISP receives the transaction, which originates from a customer service request; and provides service by first identifying the customer and then forwarding the transaction to a generalized service-engine. Elliott, column 45, lines 15-26. Thus, unlike in claim 44 of the present application, Elliott does not teach or suggest “translating a vendor neutral one of said one or more universal service components into vendor specific form and means for translating a device neutral one of said one or more universal service components into device specific form; ... wherein the one or more universal service components are generic to a plurality of services having a plurality of vendors or version numbers.” Instead, as asserted by the Examiner, the service components in Elliott are non-generic parameters, such as customer or component identification.

Further, it is respectfully submitted that the “ISP service management layer” of Elliott relates specifically to a system for customers of an Internet service provider “to monitor and control their services” (see Elliott at col. 45, lines 18-20), but does not discuss at least “one or more universal service components are generic to a plurality of services having a plurality of vendors or version numbers,” as is disclosed in claim 44 of the present application. Instead, Elliott discloses services of a single ISP, which inherently has only one vendor and version number; therefore, Elliott teaches away from a plurality of services having “a plurality of vendors or version numbers.”

Further, Applicant traverses the rejection outlined in item 43 of the final Office Action dated February 19, 2004 that “[o]ne ordinary skill in the art can be established that the service requests from service components are in some kind of form contains certain kinds of parameters like customer or components identifications.” Elliott's discussion of forwarding a transaction to a generalized service engine (Elliott, column 23, lines 14-18) does not teach or suggest “means for translating a vendor neutral one of said one or more universal service components into vendor specific form and means for translating a device neutral one of said one or more universal service components into device specific form,” as is recited in claim 44 of the present application. However, even assuming that service requests from the service components in Elliott do contain certain kinds of parameters, as asserted by the Examiner, this does not deem obvious “means for translating a vendor neutral one of said one or more universal service components into vendor specific form and means for translating a device neutral one of said one or more universal service components into device specific form.” Unlike claim 29 of the present application, the format of the service requests from the service components in Elliott include a format that is particular to a vendor and/or software version.

In light of the foregoing, no such showing that has been made in the final Office Action dated February 19, 2004 that “receiving a service order comprising at least one generic service component, wherein the at least one domain manager translates said at least one generic service component into corresponding device specific parameters” is obvious in light of Elliott and Dungan. Elliott merely discloses having a “generalized search engine” and does not teach or suggest having generic service components. Therefore, there is no showing by the Examiner as to how the service component format in Elliott that is particular to a vendor and/or software version renders obvious “translating a *vendor neutral* one of said one or more universal service

components into vendor specific form and means for translating a *device neutral* one of said one or more universal service components into device specific form.”

Applicant submits that the reason why no such showing was made is because Elliott and Dungan individually or combined, fail to teach, suggest, or otherwise provide the motivation needed to make such a modification. “ To support the conclusion that the claimed combination is directed to obvious subject matter, the references must either expressly or impliedly suggest the claimed combination. It is to be noted that simplicity and hindsight are not proper criteria for resolving the issue of obviousness.” Ex Parte Clapp, 227 USPQ 972, 973 (B.P.A.I. 1985).

Moreover, Dungan only discusses a “centralized administration system” that “stores reusable business data objects,” but also does not teach or suggest the features of the pending independent claims.

Further, the Examiner provides no motivation or support for the assertion in item 45 on page 16 of the final Office Action dated February 19, 2004 that the prior art discloses a means for translating a vendor neutral universal service component into vendor specific form because “[o]ne ordinary skill in the art can established that Network element could be described as Vendor universal service component where order entry form can be translated as service request form.” Applicant asserts that the Examiner is either relying on personal knowledge or has taken Official Notice with regard to the above assertion. Thus, under Rule 37 C.F.R. §1.104(d)(2), the Examiner is required to provide and make of record an affidavit setting forth data as specifically as possible for the assertion. The Examiner has not provided such data. Thus, the rejection of claim 44 should be withdrawn.

Further, even assuming that the Network element of Elliott is a vendor neutral component, as asserted by the Examiner, Elliott fails to teach “means for translating such a

vendor neutral universal service component into vendor specific form and means for translating device neutral universal service component into device specific form”, as is disclosed by claim 44 of the present application.

Therefore, it is respectfully submitted that independent claim 44 is patentably distinguished over the combination of Elliott and Dungan for at least the foregoing reasons.

Moreover, dependent claims 45-47 depends from independent claim 44. Therefore, for at least the reasons that independent claim 44 patentably distinguishes over the combination of Elliott and Dungan, it is respectfully submitted that dependent claims 45-47 also patentably distinguish over the cited references.

4. Independent claims 48, 49, and 53 and dependent claims 50-52 should be grouped together.

Independent claim 48 of the present application recites, “ ... means for populating into a service provisioning system one or more universal service components, wherein said one or more universal service components each provide a vendor neutral and device neutral definition of a service; means for grouping said universal service component instances together to compose a service order; ... wherein the one or more universal service components are generic to a plurality of services having a plurality of vendors or version numbers.” Independent claims 49 and 53 each recite similar features.

The prior art references relied upon by the Examiner do not teach or suggest “one or more universal service components each provide a vendor neutral and device neutral definition of a service; means for grouping said universal service component instances together to compose a service order,” as is disclosed in claim 48 of the present application. Instead, Elliott discloses an “ISP service management layer” that “provides a manager(s) that interacts with the agents in the NLMs (network layer managements).” Elliott, column. 45, lines 15-26. In particular, the ISP

receives the transaction, which originates from a customer service request, and provides service by first identifying the customer and then forwarding the transaction to a generalized service-engine. Elliott, column 45, lines 15-26. Thus, unlike in claim 48 of the present application, Elliot fails to teach or suggest having “one or more universal service components each provide a *vendor neutral* and *device neutral* definition of a service.” Instead, as asserted by the Examiner, the service request is composed of non-neutral parameters, such as customer or component identification.

Further, it is respectfully submitted that the “ISP service management layer” of Elliott relates specifically to a system for customers of an internet service provider “to monitor and control their services” (see Elliott at col. 45, lines 18-20), but does not discuss at least “one or more universal service components are generic to a plurality of services having a plurality of vendors or version numbers,” as is disclosed in claim 48 of the present application. Instead, Elliott discloses services relating to a single ISP, which inherently has only one vendor and version number; therefore, Elliott teaches away from a plurality of services having “a plurality of vendors or version numbers.”

Further, Applicant traverses the rejection outlined in item 43 of the final Office Action dated February 19, 2004 that “[o]ne ordinary skill in the art can be established that the service requests from service components are in some kind of form contains certain kinds of parameters like customer or components identifications.” Elliott's discussion of forwarding a transaction to a generalized service engine (Elliott, column 23, lines 14-18) does not teach or suggest “populating into a service provisioning system one or *more universal service components*, wherein said one or more universal service components each provide a vendor neutral and device neutral definition of a service,” as is recited in claim 48 of the present application. However,

even assuming that service requests from the service components in Elliott do contain certain kinds of parameters, as asserted by the Examiner, this does not deem obvious having one or more universal service components that are “generic to a plurality of services having a plurality of vendors or version numbers.” Unlike claim 48 of the present application, the format of the service requests from the service components in Elliott include a format that is particular to a vendor and/or software version.

In light of the foregoing, no such showing that has been made in the final Office Action dated February 19, 2004 that “populating into a service provisioning system one or more universal service components, wherein said one or more universal service components each provide a vendor neutral and device neutral definition of a service” is obvious in light of Elliott and Dungan. Elliott merely discloses having a “generalized search engine” and does not teach or suggest having generic service components. Therefore, there is no showing by the Examiner as to how the service component format in Elliott that is particular to a vendor and/or software version renders obvious “said one or more universal service components each provide a vendor neutral and device neutral definition of a service.”

Applicant submits that the reason why no such showing was made is because Elliott and Dungan individually or combined, fail to teach, suggest, or otherwise provide the motivation needed to make such a modification. “ To support the conclusion that the claimed combination is directed to obvious subject matter, the references must either expressly or impliedly suggest the claimed combination. It is to be noted that simplicity and hindsight are not proper criteria for resolving the issue of obviousness.” Ex Parte Clapp, 227 USPQ 972, 973 (B.P.A.I. 1985).

Moreover, Dungan only discusses a “centralized administration system” that “stores reusable business data objects,” and also does not teach or suggest the features of the pending

independent claims.

Further, the combination of Elliott and Dungan fails to teach or suggest, "grouping said universal service component instances together to compose a service order," as is recited in claim 48 of the present application. Applicant traverses the Examiner's reliance on column 23, lines 14-21 of Elliott as teaching or suggesting a service order. Instead, the relied upon portion of Elliott discloses that a call (or transaction) originates from a customer service request, and an ISP receives the transaction and provides service by first identifying the customer and forwarding the transaction to a generalized service-engine. Thus, Elliott does not teach or suggest that a received transaction from a customer service request includes one or more universal service components.

Therefore, it is respectfully submitted that independent claim 48 is patentably distinguished over the combination of Elliott and Dungan for at least the foregoing reasons.

Similarly, independent claims 49 and 53 recites nearly identical features as discussed above with regard to independent claim 48. Independent claim 49 recites, in part, "...describing a service in a universal service component; including one or more of said universal service components in a service order; processing said service order by an activation system; ... wherein the one or more universal service components are generic to a plurality of services having a plurality of vendors or version numbers." Independent claim 53 recites, in part, "... populating into one or more service provisioning system one or more generic service components; grouping said generic service components together to compose a service order; ... wherein the generic service components are generic to a plurality of services having a plurality of vendors or version numbers." Therefore, it is respectfully submitted that independent claim 61 patentably distinguishes over the combination of Elliott and Dungan for at least the foregoing reasons.

Moreover, dependent claims 50-52 depend from independent claim 49. Therefore, for at least the reasons that independent claims 49 patentably distinguish over the combination of Elliott and Dungan, it is respectfully submitted that dependent claims 50-52 also patentably distinguish over the cited references.

Conclusion:

In view of the law and facts stated herein, the Appellant respectfully submits that the reference cited by the Examiner is insufficient to maintain either an obviousness rejection of the rejected claims. Appellant respectfully urges that the rejection of claims 1-75 under 35 U.S.C. §103(a) is improper. Reversal of the rejections in this appeal is respectfully requested.

Respectfully submitted,

Mike BIMM et al.

Date:

September 21, 2004

By:

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VIII. Claims Appendix

CLAIMS:

1. A computer-implemented method for activating a service in a network, the method comprising:
 - (a) receiving a service order having one or more service components with each component being in a generic service request format;
 - (b) routing each of the one or more service components to an appropriate domain manager;
 - (c) translating the service component in each appropriate domain manager into corresponding device specific parameters; and
 - (d) activating network elements responsive to the device specific parameters in order to activate the network service,wherein the generic service request format is generic to a plurality of services having a plurality of vendors or version numbers.
2. The method of claim 1, wherein the act of routing each of the one or more service components to an appropriate domain manager includes (1) parsing the service order into the one or more service components, and (2) identifying for each service component a corresponding domain manager based on parameters within the service component.
3. The method of claim 1, wherein each service component has a predetermined set of generic parameters, the act of translating the service component includes the acts of (1) mapping the service activation request into specific element transactions, (2) decomposing at least one of the service component components into element activation requests using object networks comprising service activation objects, (3) converting a device neutral generic service component into device specific terminology, and (4) composing commands based on a command template stored in the service activation object.
4. The method of claim 1, wherein a service component can represent a single service in one vendor's domain and multiple services in another vendor's domain.

5. The method of claim 1, wherein the act of translating the service component includes the acts of providing default and validation support.

6. The method of claim 1, wherein the act of mapping the service activation request into specific element transactions employs parameter names and values.

7. The method of claim 1, wherein the act of decomposing a universal service into specific services or commands supported by the network provides a method of finding an appropriate object network for the service activation request.

8. The method of claim 1, wherein the act of decomposing a universal service into specific services or commands supported by the network allows for network views of the appropriate object network.

9. The method of claim 1, wherein the act of command composing allows more vendor specific details to be encoded in the object network resulting in a simpler element management system.

10. The method of claim 1, wherein the act of activating network elements responsive to the device specific parameters in order to activate the network service includes (1) interpreting the high level commands contained in the received component data, and (2) sending the translated commands to a destination network element in a device specific syntax through corresponding element management system by referencing an appropriate object network.

11. The method of claim 1, further comprising an act of rolling back an implemented service order by combining object networks and developing new object relationships if the change is canceled.

12. The method of claim 1, further comprising an act of rolling back an implemented service order by combining object networks and developing new object relationships if the change is unsuccessfully implemented.

13. The method of claim 1, further comprising an act of recovering by trying another service, after an initial activation attempt fails by combining object networks and developing new object relationships.

14. The method of claim 1, further comprising an act of recovering by trying another combination of services, after an initial activation attempt fails by combining object networks and developing new object relationships.

15. The method of claim 1, further comprising an act of scheduling by defining orders and components with scheduled date parameters.

16. The method of claim 1, further comprising an act of dependency resolution by combining service components in a service order and entering associated dependencies.

17. The method of claim 1, further comprising an act of service activation and service modeling that uses object networks based activation and translation to support generic inputs instead of device specific inputs by employing a set of templates to enable generic description of a service order.

18. The method of claim 1, further comprising the acts of (1) service activation, and (2) service modeling using object networks that provide for service evolution.

19. The method of claim 1, further comprising the acts of (1) building vendor/device specific service activation object networks that can have behavior modified at run time without resetting a service activation system.

20. The method of claim 3, wherein the object network can persist the service translations.

21. The method of claim 3, wherein a plurality of possibilities can exist for modeling detailed decomposition scenarios by applying object networks based service modeling using service activation objects of the type including atomic, multi-step, and logical.

22. The method of claim 10, wherein the act of referencing the appropriate object network for a service and action for a specific network element employs a particular parameter.

23. The method of claim 10, wherein the act of referencing the appropriate object network for a service and action for a specific network element employs a family of devices to which the network element belongs.

24. A service activation system for activating a service on a target network, comprising:

- (a) an order processing system for receiving a service order having one or more generic service components;
- (b) at least one domain manager communicatively connected to the order processing system for receiving the service order, wherein the order processing system is adapted to route the one or more generic service components to an appropriate domain manager of the at least one domain manager and the domain manager translates said generic service component into corresponding device specific parameters; and
- (c) at least one element management system communicatively connected to at least one domain manager for receiving the device specific parameters in order to activate the service on the target network,

wherein the generic service components are generic to a plurality of services having a plurality of vendors or version numbers.

25. The system of claim 24, further comprising at least one peer manager communicatively connected to the at least one domain manager to route the one or more generic service components to an appropriate domain manager of the at least one domain manager, wherein the one or more generic service components are being received from the at least one order processing system having one or more order processors communicatively connected to said peer manager.

26. The system of claim 24, further comprising at least one gateway as an interface to said service activation system for receiving a service activation request one or more service provisioning systems.

27. The system of claim 24, further comprising at least one order repository for storing network model and service activation related information including service activation objects that are initiated from the derived executing said generic service order components.

28. The system of claim 24, further comprising at least one processing engine in the said gateway for (1) sending and receiving messages, and (2) parsing managed network element responses.

29. (currently amended) A service activation system for activating a service on a target network management system or other information management system with universal or generic informational changes entered in one or more service provisioning systems, the system comprising:

(a) an activation system further comprising:

an order processing system communicatively interconnected between said service provisioning systems and

at least one domain manager communicatively connected to the order processing system for receiving a service order comprising at least one generic service component, wherein the at least one domain manager translates said at least one generic service component into corresponding device specific parameters, and the order processing system is adapted to route the at least one generic service component to an appropriate domain manager of the at least one domain manager,

one or more peer managers communicatively connected to the at least one domain manager to route the at least one generic service component to an appropriate domain manager of the at least one domain manager, wherein the at least one generic service component is received from the order processing system, wherein each of said at least one domain manager includes at least one element management system communicatively connected to the at least one domain manager for receiving the device specific parameters in order to activate the service on the target network; and

(b) at least one gateway as an interface to the service provisioning systems, communicatively connected to said service provisioning system for receiving a service activation request, wherein said gateway includes a processing engine for

sending and receiving messages, and

identifying service order and component data for population into order database tables,

wherein the at least one generic service component is generic to a plurality of services having a plurality of vendors or version numbers.

30. (currently amended) The service activation system of claim 29, wherein the order processing system further comprising:

- one or more order processors;
- an order repository; and
- one or more messaging interfaces,

wherein the order processing system is communicatively interconnected between said service provisioning systems and said domain managers via events or said peer managers and the order processing system includes a rule engine for performing tasks including advanced processing of service activation objects that are initiated from the derived service order components as determined in the gateway defined by at least one user employing said service provisioning systems.

31. The service activation system of claim 29, wherein the order processing system processes service responsive to the service order parameters;
processes objects to carry out the predefined policies for activating services on the network responsive to the particular incoming generic component activation requests;

manages the element, network, service, and business layers; and

determines using an aggregate of element and network service request messages, how to activate the requested service on the physical managed network element;

employs at least one of said peer manager to communicate with said domain managers and said element management systems;

uses generic rule sets to submit component activation request, request closure, request the component activation to be rolled back or reversed, and request component activation status; and

performs the service management functions, inventory management, and distribution of service orders to domain managers managing their respective destination network elements via element management systems.

32. The service activation system of claim 29, the order processing system further comprising:

a plurality of graphical user interfaces facilitating access to said order processing system, wherein user interface may be any suitable device such as a display terminal for providing users with interactive access to the order processing system.

33. The service activation system of claim 29, wherein the domain manager:
 receives generic component activation requests from the order processing system and maps the activation request into specific element transactions through the use of service activation objects stored in a database;
 translates vendor neutral generic service components into vendor specific terminology by interpreting the high level commands contained in the received component data and sends the translated commands to a destination network element in a device specific syntax through corresponding element management systems;
 decomposes the generic service component into element activation requests using object networks and routes vendor specific parameters to the appropriate element management system by referencing at least one of the object networks for a service and action for a specific network element using a particular parameter;
 provides a means to rollback an implemented change if the change is canceled or unsuccessfully implemented by combining object networks and developing new object relationships;
 provides a means to perform scheduling and dependency resolution by population of date and predecessors parameters; and
 provides a means for recovery or trying another service or combination of services, after an initial activation attempt has failed by combining object networks and developing new object relationships.

34. The system of claim 29, further comprising an user interface operably connected to the gateway and the activation system, for displaying to a user status and alert information.

35. The system of claim 29, wherein the gateway comprises a plurality of distributed gateways.

36. A memory device having instructions that when loaded into and executed by at least one computer implements the service activation system of claim 29.

37. The system of claim 29, further comprising a service builder editor operably connected to the order repository of the order processing system.

38. The system of claim 29, wherein the service activation system comprises means for tracking of the use and availability of managed network elements.

39. The system of claim 29, wherein the service activation system comprises means for provisioning service orders for network resources.

40. The system of claim 29, wherein the service activation system comprises means for scheduling activities related to completion of service orders.

41. The system of claim 29, wherein the service activation system comprises means for creating a network design.

42. The system of claim 29, wherein the service activation system comprises means for automatically performing service and actions on network element inventory to satisfy a service order request.

43. The system of claim 29, wherein the service activation system is a component of an operations support system.

44. A service activation system for activating a service on a target network management system or other information management system with universal informational changes entered in one or more service provisioning systems, the system comprising:

means for describing a service by one or more universal service components using universal service component relationships stored in a database;

means for translating a service by employing universal service translation including parameter mapping, service decomposition, and command composition, wherein said means for translating comprises means for translating a vendor neutral one of said one or more universal service components into vendor specific form and means for translating a device neutral one of said one or more universal service components into device specific form; and

means for activating a service by applying service modeling using object networks including atomic, multi-step, and logical objects,

wherein the one or more universal service components are generic to a plurality of services having a plurality of vendors or version numbers.

45. The system of claim 44, wherein the means for describing a service comprises:
means for populating a service into said one or more service provisioning systems using said one or more universal service components;
means for grouping said one or more universal service component instances together to compose a service order; and
means for spawning of the desired service order design to an activation system through a messaging interface.

46. The system of claim 44, wherein the means for translating a service comprises:
means for processing of a service order by the activation system;
means for routing said one or more universal service components to an appropriate domain managers;
means for decomposing said one or more universal service components into element activation requests using object networks;
means for routing vendor specific parameters to the appropriate element management systems; and
means for routing location specific parameters to the appropriate element management systems.

47. The system of claim 44, wherein the means for activating a service comprises:
means for initiating vendor specific events, delivering activation commands or data to network elements through an appropriate element management system to enable the desired service;
means for initiating device specific events, delivering activation commands or data to network elements through an appropriate element management system to enable the desired service; and
means for sending status responses through the activation system and said messaging interface to the appropriate service provisioning system.

48. A universal service activation system comprising:
means for populating into a service provisioning system one or more universal service components, wherein said one or more universal service components each provide a vendor neutral and device neutral definition of a service;

means for grouping said universal service component instances together to compose a service order;

means for spawning of the desired service order design to an activation system through at least one messaging interface;

means for processing of a service order by the activation system;

means for routing said universal service components to an appropriate domain manager;

means for translating said universal service components into vendor specific format;

means for translating said universal service components into device specific format;

means for decomposing said universal service components into element activation requests using object networks;

means for routing vendor specific parameters to an appropriate element management system;

means for routing location specific parameters to an appropriate element management system;

means for initiating vendor specific events, delivering activation commands or data to network elements through an appropriate element management system to enable the desired service;

means for initiating device specific events, delivering activation commands or data to network elements through an appropriate element management system to enable the desired service; and

means for sending status responses through the activation system and an appropriate messaging interface to the appropriate one or more service provisioning systems,

wherein the one or more universal service components are generic to a plurality of services having a plurality of vendors or version numbers.

49. A computer-implemented method for universal service activation comprising:
 describing a service in a universal service component;
 including one or more of said universal service components in a service order;
 processing said service order by an activation system;
 routing said one or more of said universal service components included in said service order to an appropriate domain manager, said appropriate domain manager translating vendor neutral universal service components into vendor specific form and translating device neutral universal service components into device specific form; and

activating said service described by said one or more universal service components in said service order,

wherein the one or more universal service components are generic to a plurality of services having a plurality of vendors or version numbers.

50. A computer-implemented method for service description process of claim 49 further comprising:

populating a service into a service provisioning system using one or more universal service components;

grouping said universal service component instances together to compose a service order; and

spawning of the desired service order design to an activation system through a messaging interface.

51. A computer-implemented method for service translation process of claim 49 further comprising:

decomposing said universal service component into element activation requests using object networks;

routing vendor specific parameters to the appropriate element management system; and routing location specific parameters to the appropriate element management system.

52. A computer-implemented method for service activation process of claim 49 further comprising:

initiating vendor specific events, delivering activation commands or data to network elements through an element management system to enable the desired service;

initiating device specific events, delivering activation commands or data to network elements through an element management system to enable the desired service; and sending status responses through the activation system and the appropriate messaging interface to the appropriate service provisioning system.

53. A computer-implemented method for universal service activation comprising: populating into one or more service provisioning system one or more generic service components;

grouping said generic service components together to compose a service order;

spawning of the desired service order design to an activation system through a messaging interface;
 processing of a service order by the activation system;
 routing said generic service components to an appropriate domain manager; translating vendor neutral generic service components into vendor specific terminology;
 translating device neutral generic service components into device specific terminology;
 decomposing said generic service components into element activation requests using object networks;
 routing vendor specific parameters to an appropriate element management system;
 routing location specific parameters to an appropriate element management system;
 initiating vendor specific events;
 delivering activation commands or data to network elements through an element management system to enable the desired service;
 initiating device specific events;
 delivering activation commands or data to network elements through an element management system to enable the desired service; and
 sending status responses through the activation system and the appropriate messaging interface to the appropriate service provisioning system,
 wherein the generic service components are generic to a plurality of services having a plurality of vendors or version numbers.

54. A service activation system for activating a service on a target network, comprising:
- (a) an order processing system for receiving a service order having one or more generic service components defining a service in device neutral parameters;
 - (b) at least one domain manager communicatively connected to the order processing system for receiving the service order, wherein the order processing system is adapted to route the one or more generic service components to an appropriate domain manager of the at least one domain manager and the domain manager translates said generic service component into corresponding device specific parameters;
 - (c) at least one element management system communicatively connected to at least one domain manager for receiving the device specific parameters in order to activate the service on the target network; and

(d) at least one connection into an order database for receiving a service activation request one or more service provisioning systems,

wherein the generic service components are generic to a plurality of services having a plurality of vendors or version numbers.

55. A service activation system for activating a service on a target network, comprising:

(a) an order processing system for receiving a service order having one or more generic service components defining a service in device neutral parameters;

(b) at least one domain manager communicatively connected to the order processing system for receiving the service order, wherein the order processing system is adapted to route the one or more generic service components to an appropriate domain manager of the at least one domain manager and the domain manager translates said generic service component into corresponding device specific parameters; and

(c) at least one network management system communicatively connected to at least one domain manager for receiving the device specific parameters in order to activate the service on the target network,

wherein the generic service components are generic to a plurality of services having a plurality of vendors or version numbers.

56. The system of claim 55, further comprising at least one peer manager communicatively connected to the at least one domain manager to route the one or more generic service components to an appropriate domain manager of the at least one domain manager,

wherein the one or more generic service components are being received from the at least one order processing system having one or more order processors communicatively connected to said peer manager.

57. The system of claim 55, further comprising at least one gateway as an interface to said service activation system for receiving a service activation request one or more service provisioning systems.

58. The system of claim 55, further comprising at least one order repository for storing network model and service activation related information including service activation objects that are initiated from the derived executing said generic service order components.

59. The system of claim 55, further comprising at least one processing engine in the said gateway for (1) sending and receiving messages, and (2) parsing managed network element responses.

60. The system of claim 55, further comprising at least one connection into an order database for receiving a service activation request one or more service provisioning systems.

61. A service activation system for activating a service on a target network management system or other information management system with universal or generic informational changes entered in one or more service provisioning systems, the system comprising:

- (a) an activation system further comprising:
 - an order processing system communicatively interconnected between said service provisioning systems and
 - at least one domain manager communicatively connected to the order processing system for receiving a service order comprising at least one generic service component, wherein the at least one domain manager translates said at least one generic service component into corresponding device specific parameters, and the order processing system is adapted to route the at least one generic service component to an appropriate domain manager of the at least one domain manager,
 - one or more peer managers communicatively connected to the at least one domain manager to route the at least one generic service component to an appropriate domain manager of the at least one domain manager, wherein the at least one generic service component is received from the order processing system, wherein each of said at least one domain manager includes at least one network management system communicatively connected to the at least one domain manager for receiving the device specific parameters in order to activate the service on the target network; and
- (b) at least one gateway as an interface to the service provisioning systems, communicatively connected to said service provisioning system for receiving a service activation request, wherein said gateway includes a processing engine for

(1) sending and receiving messages, and
 (2) identifying service order and component data for population into order database tables,

wherein the at least one generic service component is generic to a plurality of services having a plurality of vendors or version numbers.

62. The service activation system of claim 61, wherein the order processing system further comprising:

one or more order processors;
 an order repository; and
 one or more messaging interfaces,

wherein the order processing system is communicatively interconnected between said service provisioning systems and said domain managers via events or said peer managers and the order processing system includes a rule engine for performing tasks including advanced processing of service activation objects that are initiated from the derived service order components as determined in the gateway defined by at least one user employing said service provisioning systems.

63. The service activation system of claim 61, wherein the order processing system:
 processes service responsive to the service order parameters;
 processes objects to carry out the predefined policies for activating services on the network responsive to the particular incoming generic component activation requests;

manages the element, network, service, and business layers;
 determines using an aggregate of element and network service request messages, how to activate the requested service on the physical managed network element;

employs at least one of said peer manager to communicate with said domain managers and said element management systems;

uses generic rule sets to submit component activation request, request closure, request the component activation to be rolled back or reversed, and request component activation status; and

performs the service management functions, inventory management, and distribution of service orders to domain managers managing their respective destination network elements via element management systems.

64. The service activation system of claim 61, the order processing system further comprising:

a plurality of graphical user interfaces facilitating access to said order processing system, wherein user interface may be any suitable device such as a display terminal for providing users with interactive access to the order processing system.

65. The service activation system of claim 61, wherein the domain manager: receives generic component activation requests from order processing system and maps the activation request into specific element transactions through the use of service activation objects stored in a database;

translates vendor neutral generic service components into vendor specific terminology by interpreting the high level commands contained in the received component data and sends the translated commands to a destination network element in a device specific syntax through corresponding element management systems;

decomposes generic service component into element activation requests using object networks and routes vendor specific parameters to the appropriate element management system by referencing object network for a service and action for a specific network element using a particular parameter;

provides a means to rollback an implemented change if the change is canceled or unsuccessfully implemented by combining object networks and developing new object relationships;

provides a means to perform scheduling and dependency resolution by population of date and predecessors parameters; and

provides a means for recovery or trying another service or combination of services, after an initial activation attempt has failed by combining object networks and developing new object relationships.

66. The system of claim 61, further comprising an user interface operably connected to the gateway and the activation system for displaying to a user status and alert information.

67. The system of claim 61, wherein the gateway comprises a plurality of distributed gateways.

68. A memory device having instructions that when loaded into and executed by at least one computer implements the service activation system of claim 61.

69. The system of claim 61, further comprising a service builder editor operably connected to the order repository of the order processing system.

70. The system of claim 61, wherein the service activation system comprises means for tracking of the use and availability of managed network elements.

71. The system of claim 61, wherein the service activation system comprises means for provisioning service orders for network resources.

72. The system of claim 61, wherein the service activation system comprises means for scheduling activities related to completion of service orders.

73. The system of claim 61, wherein the service activation system comprises means for creating a network design.

74. The system of claim 61, wherein the service activation system comprises means for automatically performing service and actions on network element inventory to satisfy a service order request.

75. The system of claim 61, wherein the service activation system is a component of an operations support system.